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| 09/992,017      | 11/26/2001  | Yasufumi Tahara      | 04329.2701          | 8247             |

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| EXAMINER |
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SONI, DEEPAK H

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| ART UNIT | PAPER NUMBER |
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2668

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/992,017             | TAHARA ET AL.       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Deepak Soni            | 2668                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 16 and 33 is/are rejected.
- 7) ☒ Claim(s) 2 - 15, 17 - 32, 34 - 44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/12/04, 2/9/05</u>  | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1, 16 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swinkels et al. (U.S. 6,795,394) in view of Suzuki et al. (U.S. 5636,205)

Regarding claim 1, "a data transmission system including a resource holding main traffic" is disclosed by Swinkels (Figure 3, Working Path) "and a resource holding sub-traffic different from said main traffic" is disclosed by (Figure 3, Protection Path), Swinkels fails to disclose "a self-healing function", Suzuki discloses (Figure 8, element 33 is the Bypass Circuit), "when a failure related to main traffic has occurred, detouring main traffic to the resource of sub-traffic to salvage main traffic" is disclosed by Swinkels, In the event of a fault in a working path, the working traffic is switched to a respective protection path using a span operation. The extra traffic is protected by switching to an alternative path as spoken of in the Abstract. Swinkels does not teach "means for suppressing said self-healing function for a specific unit defined in the system" Suzuki teaches a bidirectional line switched ring network control system which provides each of the nodes with a bypass circuit for controlling whether or not the APS byte described above is to be passed, and with an address comparison circuit for

comparing the address contained in the APS byte with its own address, closes the bypass circuit to inhibit the passage of the APS byte when the address contained in the APS byte coincides with the its own address, but opens the bypass circuit to allow the passage of the APS byte when the addresses do not coincide as spoken of on column 1 lines 57-67. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Swinkels traffic protections with Suzuki bypass circuit to inhibit the APS in a particular node, segment or resources in a data transmission network. One of ordinary skill in the art would be motivated for doing so to improve network operation, Network operators perceive rings to be inefficient, and meshes to be efficient, yet difficult to manage and operate. Extra traffic to make use of the idle protection bandwidth is seldom used, because span switches occur often enough to cause too many outages on the extra traffic as spoken of on column 2 lines 22-26 of the Swinkels et al reference.

Regarding claim 16, "a data transmission system which connects a plurality of pieces of node equipment" is disclosed by Swinkels (Figure 3, NE1 – NE3) "in a ring" is disclosed by Swinkels (Figure 3), "via a service line transmitting main traffic" is disclosed by Swinkels (Figure 3, Working Path) "and a protection line capable of transmitting sub-traffic different from said main traffic" is disclosed by Swinkels (Figure 3, Protection Path) "and which includes self-healing function control" is disclosed by Swinkels (Figure 3, Working Traffic)

“means for, when a failure related to said main traffic has occurred, carrying out a switching process which switches the transmission path of said main traffic to said protection line to detour said main traffic to said protection line” is disclosed by Swinkels (Figure 3, and spoken of in column 2 lines 31-43) Swinkels does not teach “means for suppressing said self-healing function for a specific unit defined in the data transmission system” Suzuki teaches a bidirectional line switched ring network control system which provides each of the nodes with a bypass circuit for controlling whether or not the APS byte is to be passed, and with an address comparison circuit for comparing the address contained in the APS byte with its own address, closes the bypass circuit to inhibit the passage of the APS byte when the address contained in the APS byte coincides with the its own address, but opens the bypass circuit to allow the passage of the APS byte when the addresses do not coincide as spoken of on column 1 lines 57-67. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Swinkels traffic protections with Suzuki bypass circuit to inhibit the APS in a particular node, segment or resources in a data transmission network. One of ordinary skill in the art would be motivated for doing so to improve network operation, Network operators perceive rings to be inefficient, and meshes to be efficient, yet difficult to manage and operate. Extra traffic to make use of the idle protection bandwidth is seldom used, because span switches occur often enough to cause too many outages on the extra traffic as spoken of on column 2 lines 22-26 of the Swinkels et al reference.

Regarding claim 33, “a data transmission system which connects a plurality of pieces of node equipment” is disclosed by Swinkels (Figure 3, NE1 – NE3) “in a ring” is disclosed by Swinkels (Figure 3), “via a service line transmitting main traffic” is disclosed by Swinkels (Figure 3, Working Path) “and a protection line capable of transmitting sub-traffic different from said main traffic” is disclosed by Swinkels (Figure 3, Protection Path) “and which includes self-healing function control” is disclosed by Swinkels (Figure 3, Working Traffic) “means for, when a failure related to said main traffic has occurred, carrying out a switching process which switches the transmission path of said main traffic to said protection line to detour said main traffic to said protection line” is disclosed by Swinkels (Figure 3, and spoken of in column 2 lines 31-43) Swinkels does not teach “means for suppressing said self-healing function for a specific unit defined in the data transmission system” Suzuki teaches a bidirectional line switched ring network control system which provides each of the nodes with a bypass circuit for controlling whether or not the APS byte is to be passed, and with an address comparison circuit for comparing the address contained in the APS byte with its own address, closes the bypass circuit to inhibit the passage of the APS byte when the address contained in the APS byte coincides with the its own address, but opens the bypass circuit to allow the passage of the APS byte when the addresses do not coincide as spoken of on column 1 lines 57-67. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to

combine Swinkels traffic protections with Suzuki bypass circuit to inhibit the APS in a particular node, segment or resources in a data transmission network. One of ordinary skill in the art would be motivated for doing so to improve network operation, Network operators perceive rings to be inefficient, and meshes to be efficient, yet difficult to manage and operate. Extra traffic to make use of the idle protection bandwidth is seldom used, because span switches occur often enough to cause too many outages on the extra traffic as spoken of on column 2 lines 22-26 of the Swinkels et al reference.

***Allowable Subject Matter***

2. Claims 2 - 15, 17 - 32, 34 - 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
3. The following is a statement of reasons for the indication of the allowable subject matter:

Regarding claim 2, Prior art of record does not disclose, in single or in combination, switching inhibit control means, inhibiting the main traffic set in the transmission path including the specified segment of service line from being detoured to protection line by switching process at self-healing function control means.

Regarding claim 3, Prior art of record does not disclose, in single or in combination, switching inhibit control means inhibits the main traffic in service line from detouring to protection line in specified segment.

Regarding claim 4, Prior art of record does not disclose, in single or in combination, switching inhibit control means, inhibiting the main traffic set in the transmission path from being detoured to protection line by switching process at self-healing function control means.

Regarding claim 5, Prior art of record does not disclose, in single or in combination, switching inhibit control means inhibits the main traffic in service line from detouring to the resource on protection line side corresponding to specified transmission path.

Regarding claim 6, Prior art of record does not disclose, in single or in combination, when there is a transmission path for sub-traffic in protection line and the transmission path for sub-traffic includes a resource on protection line side corresponding to specified transmission path, switching inhibit control means inhibits the main traffic in service line from detouring to all of the resources in which the transmission path for sub-traffic has been set.

Regarding claim 7, Prior art of record does not disclose, in single or in combination, switching inhibit control means, inhibiting the main traffic set in the transmission path including the resource from being detoured to protection line by switching process at self-healing function control means.



Regarding claim 8, Prior art of record does not disclose, in single or in combination, switching inhibit control means inhibits the main traffic in service line from detouring to a resource on protection line side corresponding to specified resource serving as a unit of multiplexing.

Regarding claim 9, Prior art of record does not disclose, in single or in combination, switching inhibit control means, inhibiting the main traffic set in the transmission path including the resource from being detoured to protection line by switching process at self-healing function control means.

Regarding claim 10, Prior art of record does not disclose, in single or in combination, switching inhibit control means inhibits the main traffic in service line from detouring to the resource on protection line side corresponding to specified resource serving as the smallest unit in setting a transmission path.

Regarding claim 11, Prior art of record does not disclose, in single or in combination, means for creating a transmission path with an attribute of inhibiting the main traffic from being detoured to protection line by switching process at self-healing function control means.

Regarding claim 12, Prior art of record does not disclose, in single or in combination, when there is a transmission path in which the main traffic is inhibited from being detoured to protection line by switching process at self-healing function control means, canceling the inhibition of the main traffic from detouring to the transmission path.

Regarding claim 13, Prior art of record does not disclose, in single or in combination, when service line and protection line are both multiplex lines and transmission paths concatenated over a plurality of adjacent multiplexing units include specified object, switching inhibit control means inhibits the main traffic set in the concatenated transmission paths from being detoured to protection line by switching process at self-healing function control means.

Regarding claim 14, Prior art of record does not disclose, in single or in combination, switching inhibit control means for, inhibiting the main traffic set in the resource from being detoured to protection line by switching process at self-healing function control means, regardless of the presence or absence of a transmission path in the resource.

Regarding claim 15, Prior art of record does not disclose, in single or in combination, switching inhibit control means inhibits the main traffic in service line from detouring to protection line of specified resource.

Regarding claim 17, Prior art of record does not disclose, in single or in combination, management information creating means for creating management information that the main traffic set in the transmission path including the specified segment of service line is inhibited from being detoured to protection line by switching process at self-healing function control means.

Regarding claim 18, Prior art of record does not disclose, in single or in combination, management information creating means causes management

information to include information that the main traffic in service line is inhibited from detouring to protection line in specified segment.

Regarding claim 19, Prior art of record does not disclose, in single or in combination, management information creating means for creating management information that the main traffic set in the transmission path is inhibited from being detoured to protection line by switching process at self-healing function control means.

Regarding claim 20, Prior art of record does not disclose, in single or in combination, management information creating means causes management information to include information that the main traffic in said service line is inhibited from being detoured to the resource on protection line side corresponding to specified transmission path.

Regarding claim 21, Prior art of record does not disclose, in single or in combination, when a transmission path for sub-traffic exists in protection line and the transmission path for sub-traffic includes the resource on the protection line side corresponding to specified transmission path, management information creating means causes management information to include information that the main traffic in service line is inhibited from detouring to all the resources in which the transmission path for sub-traffic has been set.

Regarding claim 22 and 24, Prior art of record does not disclose, in single or in combination, management information creating means for specifying means has specified a resource, creating management information that the main traffic

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set in the transmission path including the resource is inhibited from being detoured to protection line by switching process at said self-healing function control means

Regarding claim 23, Prior art of record does not disclose, in single or in combination, management information creating means causes management information to include information that the main traffic in service line is inhibited from detouring to the resource on protection line side corresponding to specified resource serving as a unit of multiplexing.

Regarding claim 25, Prior art of record does not disclose, in single or in combination, management information creating means causes management information to include information that the main traffic in service line is inhibited from detouring to the resource on protection line side corresponding to specified resource serving as the smallest unit in setting a transmission path.

Regarding claim 26, Prior art of record does not disclose, in single or in combination, path creating means for creating a transmission path with an attribute of inhibiting the main traffic from being detoured to protection line by switching process at self-healing function control means.

Regarding claim 27, Prior art of record does not disclose, in single or in combination, canceling means for, when there is a transmission path in which the main traffic is inhibited from being detoured to protection line by switching process at self-healing function control means, canceling the inhibition of the main traffic from detouring to the transmission path.

Regarding claim 28, Prior art of record does not disclose, in single or in combination, when service line and protection line are both multiplex lines and transmission paths concatenated over a plurality of adjacent multiplexing units include specified object, management information creating means causes management information to include information that the main traffic set in the concatenated transmission paths is inhibited from being detoured to protection line by switching process at self-healing function control means.

Regarding claim 29, Prior art of record does not disclose, in single or in combination, matching means for matching the management information set in each of plurality of pieces of node equipment by management information setting means among the pieces of node equipment under the control of at least the present network management equipment.

Regarding claim 30, Prior art of record does not disclose, in single or in combination, path creating means creates in protection line a transmission path with an attribute of inhibiting the main traffic from being detoured to its own transmission resource by switching process at self-healing function control means.

Regarding claim 31, Prior art of record does not disclose, in single or in combination, management information creating means for, when the specifying means has specified a resource, inhibiting the main traffic set in the transmission path including the specified resource in service line from being detoured to

protection line by switching process at self-healing function control means, regardless of the presence or absence of a transmission path in the resource.

Regarding claim 32, Prior art of record does not disclose, in single or in combination, management information creating means causes management information to include information that the main traffic in service line is inhibited from detouring to protection line of specified resource.

Regarding claim 34, 36, 39, 41 and 43, Prior art of record does not disclose, in single or in combination, memory means for storing the management information created at the set request accepting means and switching inhibit control means for partially inhibiting switching process by self-healing function control means on the basis of the management information stored in the memory means.

Regarding claim 35, Prior art of record does not disclose, in single or in combination, set request accepting means causes the management information to be set in present piece of node equipment to include information that the main traffic in service line is inhibited from detouring to protection line in specified segment.

Regarding claim 37, Prior art of record does not disclose, in single or in combination, set request accepting means causes the management information to be set in said present piece of node equipment to include information that the main traffic in service line is inhibited from detouring to the resource on protection line side corresponding to specified transmission path.

Regarding claim 38, Prior art of record does not disclose, in single or in combination, when a transmission path for sub-traffic exists in protection line and the transmission path for sub-traffic includes the resource on the protection line side corresponding to specified transmission path, set request accepting means causes management information to be set in present piece of node equipment to include information that the main traffic in service line is inhibited from detouring to all the resources in which the transmission path for sub-traffic has been set.

Regarding claim 40, Prior art of record does not disclose, in single or in combination, set request accepting means causes the management information to be set in present piece of node equipment to include information that the main traffic in service line is inhibited from detouring to the resource on protection line side corresponding to specified resource serving as a unit of multiplexing.

Regarding claim 42, Prior art of record does not disclose, in single or in combination, set request accepting means causes the management information to be set in present piece of node equipment to include information that the main traffic in service line is inhibited from detouring to the resource on protection line side corresponding to specified resource serving as the smallest unit in setting a transmission path.

Regarding claim 44, Prior art of record does not disclose, in single or in combination, set request accepting means causes the management information to be set in present piece of node equipment to include information that the main

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traffic in service line is inhibited from detouring to protection line of specified resource.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deepak Soni whose telephone number is 571-272-2816. The examiner can normally be reached on 9:00Am - 5: 00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Deepak Soni  
Examiner  
Art Unit 2668

DS

*Seema S. Rao*  
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